

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
ANNUAL REPORT ON GOALS, OBJECTIVES AND POLICIES

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Contact Person/Phone: Lester M. Nakamura/586-1910

The goals and objectives stated in this report are long-termed, and are not limited by the existing budget. It charts a direction to improve the efficiency and effectiveness of State operations through the application of technology. Additional funding and resources will be needed to accomplish all of the goals and objectives contained herein. The division's priority is to maintain the existing level of services, but will strive to accomplish as many of the goals and objectives as possible within the budget and resources granted.

I. Goal

Assess and redefine ICSD's services to support the State's current and future business requirements. Emphasis will be placed on the cost-effective and efficient application of information and telecommunications technologies to improve the long-term effectiveness and efficiency of Hawaii State Government (State).

II. Objectives and Policies

- A. #1 - Improve the management of information technology initiatives and projects in the State, with enhancements such as up-to-date information technology strategic plans, standards and guidelines, project management plans, and status reports.
- B. #2 - Expand and enhance the State's intranet infrastructure (HiGov.net) to establish a browser-based environment that supports multiple computer platforms; develop, implement, and support web-enabled application systems and electronic messaging capabilities to conduct State business over HiGov.net.
- C. #3 - Broaden the role of ICSD staff to include professional information technology services such as technical consulting in the areas of requirements studies, and specification and design of systems, network design, communications design, development of more new systems, and other technical areas.

- D. #4 - Expand and support the State's telecommunications infrastructure to enable connectivity from State offices to host computers for the State's application systems, and provide staffing and support of the State's radio systems.
- E. #5 - Enable more use of the Internet for productivity gains such as improving interoffice communications, gaining access to more information sources, enhancing the public's access to government information and services, and electronic commerce.
- F. #6 - Accommodate changes in centralized computing technologies and workload growth, while maintaining reliability, cost-effectiveness and efficiency.

III. Action Plan with Timetable

- A. Objective/Policy #1 - Improve the management of information technology initiatives and projects in the State, with enhancements such as up-to-date information technology strategic plans, standards and guidelines, project plans, and status reports.
 - 1. Required Actions
 - a. Establish a planning process for information technology initiatives and projects in the State.
 - b. Establish a process to register information technology initiatives and projects, monitor for compliance with State standards, and track progress.
 - c. Establish a process to set or modify information technology standards and guidelines.
 - d. Develop a service to facilitate the implementation of information technology initiatives and projects.
 - e. Coordinate all of the above actions with the Comptroller.
 - 2. Past Year Accomplishment - The Administration and the Comptroller have identified the need to implement IT Governance and define IT architecture. The ICSD's role in IT planning,

development of policies and standards, and approval of IT projects for the State requires clarification. The ICSD is actively involved with the Comptroller in supporting the Administration's initiatives. Initial implementation of the IT Governance Committee has begun.

3. One Year
 - a. The Comptroller and the IT Governance Committee will review the current policies and processes to address the issue of roles in the State's IT program. This review would include all policies currently in effect, including AD 77-2, ICS 90-1, and AD 87-1.
 - b. Develop processes and evaluate resources required, such as staffing and budgets, to implement the policies that result from this review.
 - c. Develop State IT architecture and submit to IT Governance Committee
4. Two Years – Continue with evaluation and refinement of the processes and services.
5. Five Years – Continue with evaluation and refinement of the processes and services.

B. Objective/Policy #2 - Expand and enhance the State's intranet infrastructure (HiGov.net) to establish a browser-based environment that supports multiple computer platforms; develop, implement, and support web-enabled application systems and electronic messaging capabilities to conduct State business over HiGov.net.

1. Required Actions
 - a. Continue connectivity of State agencies to the Next Generation Network (NGN), the State's telecommunications infrastructure to facilitate access to application services.
 - b. Establish application development standards for the HiGov.net.

- c. Modify Internet/email acceptable use policies, as needed, for conducting electronic business on the intranet.
- d. Assist with revision of various State rules and regulations to implement the use of electronic technologies such as digital signatures to transact daily business.
- e. Assist with re-engineering of various State business processes such as the issuing and processing of purchase orders to accommodate a conversion from paper to electronic media.
- f. Continue with implementation of Lotus Notes, the State's electronic messaging standard.

2. Past Year Accomplishments

- a. TCP/IP has been implemented as the network protocol standard for NGN. Microsoft Internet Explorer browser is the de-facto standard for the intranet, but use of open source browsers such as Mozilla is increasing.
- b. State e-gov team, staffed with exempt hires, continues to focus on implementation of electronic government in the State.
- c. ICSD staff has received hands-on experience and mentoring in the development of Notes workflow applications.
- d. The capability to access IBM mainframe applications over the intranet in IP (Internet Protocol) mode has been implemented.
- e. The electronic purchase order system to issue and process purchase orders electronically was reviewed and a redesign was initiated.
- f. Pilot for use of digital certificates for email was initiated. Review of digital signatures to transact daily State business is continuing.

- g. The Zope/Plone Application Server/Content Management System that forms the engine powering the Intranet and Internet servers was upgraded. This software upgrade provided a large number of major new features and enhancements important to system administrators and web developers.
 - h. The use of the Open Source PHP web development language and Open Source MySQL database server as a paired software toolkit continued to be promoted. Several important new projects were developed using this pairing of tools. Maintenance and upgrade support for these tools were also provided.
 - i. A near-real-time replication scheme for MySQL Intranet database server to provide an additional data backup process for MySQL databases was implemented. This design has been enhanced to provide the ability to provide database load control by providing separate write (master) and read (slave) servers. Implementation of this enhanced design is dependent on the procurement and installation of new hardware servers in 2005.
 - j. The Virtual Lab local area network was implemented. This Lab is being used to develop and test Wireless and Internet applications and security solutions.
- 3. One Year
 - a. The e-gov team will continue to develop the State intranet and assess the applicability of emerging technologies.
 - b. Continue with addition of Lotus Notes users and begin development of other Notes services such as document management and workflow applications.
 - c. Upgrade software and expand capacity of intranet servers to accommodate new applications.

- d. Continue with the development of guidelines to specify desktop computing capabilities needed to implement electronic based applications and messaging services.
- e. Train ICSD staff on new technologies they will be required to work with such as open source applications, UNIX, relational database application builders, web development tools, and network concepts and protocols.
- f. Identify and pursue funding and resources to accomplish the tasks described above. Review existing staff and organization to assess optimization alternatives.

4. Two Years

- a. Continue with implementation of Lotus Notes users and development of services.
- b. Maintain hardware and software levels for the intranet equipment to ensure optimum availability of the services.
- c. Upgrade hardware as needed to expand processing and repository capacities, to accommodate additional users and applications that are implemented on the intranet.
- d. Provide staff with periodic refresher training to maintain currency of their technical expertise.
- e. Continue to review State rules, regulations, and business processes for changes required to enable migration to electronic means.

5. Five Years – Monitor usage and make improvements and adjustments as needed.

- C. Objective/Policy #3 - Broaden the role of ICSD staff to include professional information technology services such as technical consulting in the areas of requirements studies, and specification and design of systems, network design, communications design, development of more new systems, and other technical areas.

1. Required Actions

- a. Provide staff with training, tools, a standard infrastructure/environment, and support to perform their broaden roles.
- b. Acquire short-term professional services to assist the ICSD in the development of new systems. This will allow the ICSD to take on new development, ensure that the State has in-house knowledge to maintain the systems, and reduce the State's dependence on consultants for enhancement/maintenance services.
- c. Assess staff resource requirements and acquire as needed.
- d. Coordinate application development requirements and efforts with agencies.
- e. Develop standards for application development methodology.
- f. Make data more accessible to agencies (e.g., data mart), such that they will be empowered to retrieve data on their own.

2. Past Year Accomplishments

- a. Progress improved from previous year. Staff took on a few small development projects and completed them successfully. Application systems were developed for DAGS (Financial Data Mart) and DB&F (Budget Data Capture).
- b. Training for the staff in current development technologies has been initiated and is continuing.
- c. Planning and coordination for the development of new systems between ICSD and the departments have been initiated.
- d. Development equipment and tools have been acquired to provide ICSD staff with hands-on experience. The staff

learned and worked with new technologies and tools such as open source and Web Sphere software.

- e. More advanced and diverse training is being researched and pursued.

3. One Year

- a. Train ICSD staff in subjects such as project management; estimation methodology; network fundamentals, data management fundamentals, protocols, and design; and customer service.
- b. Pursue necessary personnel actions such as filling vacancies and redesigning positions.
- c. Acquire tools including computer software and reference books or services.
- d. Begin work on standards for an application development methodology.
- e. Continue to provide added value maintenance services to our customers.
- f. Create pilot projects on development of new applications to gain expertise in new technologies
- g. Develop a vision for a State financial management system.
- h. Retrofit existing systems to extend their lives, improve usability, and reduce maintenance requirements.

4. Two Years

- a. Work with agencies in determining which systems would be advantageous for the State to develop. Begin the development process.
- b. Determine the amount of professional services that would be required for the selected projects.

- c. Continue to provide agencies with professional information technology services.
 - d. Continue to expand the State's Data Mart.
 - e. Continue to retrofit existing systems.
 - 5. Five Years – Continue to provide staff with refresher training to remain current with changing technologies, standards, and methodologies. To be effective as alternatives to private consultants, their knowledge and skill levels need to be kept near that of private consultants.
- D. Objective/Policy #4 - Expand and support the State's telecommunications infrastructure to enable connectivity from State offices to host computers for the State's application systems, and provide staffing and support of the State's radio systems.
- 1. Required Actions
 - a. Add additional staff to continue the operation and maintenance of the Hawaii Wide Area Integrated Information Access Network (HAWAIIAN).
 - b. Expand the use and enhance reliability and survivability of the NGN.
 - c. Expand network connectivity to State offices and workstations.
 - d. Enhance and expand video capabilities for intrastate, interstate, and international communications.
 - e. Establish desktop video conferencing for local, national, and international communications.
 - f. Expand and enhance telephone services.
 - g. Provide a survivable, fault tolerant backbone for land mobile radio interconnection based on the HAWAIIAN.

- h. Hire additional staff to support the statewide radio communications system that provides services, and supports the State's communication needs for public safety, emergency services, natural resource protection, and others.

2. Past Year Accomplishments

- a. NGN telecommunications infrastructure expanded between the islands of Oahu and Hawaii; Oahu and Maui; and Oahu and Kauai.
- b. Improved the quality and quantity of the monitoring of NGN with the implementation of better tools.
- c. Enhanced the security of NGN with newer and improved network hardware and software.
- d. Started construction on one of three expansion microwave sites for the joint State-Federal Anuenue (formerly Rainbow) System.
- e. Enhanced video conferencing capabilities with the installation of a new multipoint conference unit and IP (Internet Protocol) conferencing abilities.
- f. Issued IFB (Invitation for Bids) for State telephone system and started reviewing proposals.

3. One Year

- a. Continue to monitor the performance, functionality, and security of NGN. Make necessary adjustments to enhance its operation and meet requirements as they evolve.
- b. Continue to work with the counties to expand their connectivity to NGN to facilitate access to shared applications and services by State and county agencies.
- c. Continue working on development and construction of microwave sites for Anuenue System upgrade.

- d. Continue to seek and upgrade network monitoring capabilities for NGN and HAWAIIAN.
 - e. Continue maintenance of HAWAIIAN microwave sites, including structural and equipment repairs, upgrades, and enhancements.
 - f. Continue to evaluate alternatives for a statewide radio communications system for State agencies. Develop requirements for these alternatives.
 - g. Continue to support additional staffing for the radio systems in the FY07 supplemental budget.
 - 4. Two Years
 - a. Continue with establishing connectivity to NGN from State agencies and other government jurisdictions.
 - b. Study and design of interoperability solution for public safety and emergency response radio systems.
 - 5. Five Years - Continue support, connectivity, and enhancement of the NGN depending on requirements and funding.
- E. Objective/Policy #5 - Enable more use of the Internet for productivity gains such as improving interoffice communications, gaining access to more information sources, enhancing the public's access to government information and services, and electronic commerce.
- 1. Required Actions
 - a. Establish a State Cyber-Security Office to develop and implement a State cyber-security program to manage and administer the State's cyber-security systems, monitor cyber threat activity, analyze data from firewalls and other security equipment to detect patterns of intrusive activity, develop policy recommendations, and other cyber-security related functions.
 - b. Develop and implement new Internet technologies, tools, and methods to improve access to public information, and

facilitate the State's communications with the citizenry, business, and other government jurisdictions.

- c. Continue to work and collaborate with the State's Internet Portal contractor to add more State e-commerce services for the public to access over the Internet.

2. Past Year Accomplishments

- a. Continued to coordinate efforts with the State's contractor and State agencies to implement services accessible by the public, through the State's Internet portal
- b. Acquired server equipment to increase the storage capacity of the State's web servers to accommodate more public information.
- c. Initiated changes to State network configurations to improve security of internal services, data repositories, web servers, and other assets from unauthorized access.
- d. Assisted with statewide implementation of an acceptable use policy for email and Internet.
- e. Applied wireless technologies to implement live video streaming over the Internet for the public to view.
- f. Developed a Workstation ("edge") focused threat assessment and recommendations report in July 2004
- g. Developed a Microsoft Windows XP Service Pack 2 assessment and action plan in early August well ahead of most public and private enterprises.
- h. Developed and deployed a simple but useful cyber-security news aggregation page found on the Intranet at <http://portal.higov.net:8080/security/>

3. One Year

- a. State agencies are already being provided access to the Internet, but the security measures deployed are done

individually. Agencies are working on better coordination.

- b. Implement and migrate to server equipment acquired to increase the storage capacity of the State's web servers to accommodate more public information.
 - c. Provide technical training and mentoring for support staff to enable them to further develop the quality and content of the State's websites. Continue to work towards compliance with guidelines on access by the disabled.
 - 4. Two Years – Monitor usage and make improvements and adjustments as needed.
 - 5. Five Years – Monitor usage and make improvements and adjustments as needed.
- F. Objective/Policy #6 - Accommodate changes in centralized computing technologies and workload growth, while maintaining reliability, cost-effectiveness and efficiency.
- 1. Required Actions
 - a. Implement an Emergency Power /Business Continuity Plan.
 - b. Expand network monitoring and support coverage to 24 hours per day, seven days a week, including holidays.
 - c. Expand the automation of computer and network operation and management.
 - d. Implement alternative technologies for producing computer output.
 - e. Implement on-line production documentation.
 - f. Initiate processes to design and build a second computer and network site as part of disaster recovery. Lead user agencies in developing, implementing, and testing a statewide information technology disaster recovery plan.

- g. Expand network monitoring to all networks in State government, including wide area and local area networks and Systems Network Architecture.
- h. Implement point of capture or automated data entry facilities.

2. Past Year Accomplishments

- a. Emergency generator design plan has been finalized and the project has commenced. The project is being continuously reviewed by ICSD to accommodate construction shutdowns that impact the data center and telecommunication operations.
- b. The reorganization plan to expand the operation of the Assistance Center to 24 X 7 was approved in 2002. Coverage support for weekdays until 9 p.m. no longer require overtime due to the filling of some vacant Network Control Technician positions.

3. One Year

- a. Continue to work on details of the reorganization such as requesting approval to fill and updating position descriptions, and fill the vacancies for the Assistance Center expansion to 24 X 7 operation.
- b. Continue to work on the plan to identify, design, and develop backup data center sites for storage management and emergency/disaster recovery purposes. Initiate project plans with a user agency to develop, implement, and test a statewide information technology disaster recovery plan that will also be used as a model for other user agencies.
- c. Continue to work on the project to migrate computer output from printed to electronic media, and enabling on-line access to them.

- d. Continue working on the plan to provide expanded network monitoring services to departmental networks in the State.
 - e. Continue work to install an emergency generator system.
- 4. Two Years
 - a. Continue work on development of backup data center sites for storage management and emergency/disaster recovery purposes. Continue work in developing, implementing and testing a statewide information technology disaster recovery plan with other user agencies.
 - b. Continue evaluation of State requirements, and centralized operations for information processing, telecommunications services, and IT support.
- 5. Five Years - Continue evaluation of State requirements, and centralized operations for information processing, telecommunications services, and IT support.

IV. Performance Measures

- A. Customer Satisfaction measure – The year following the implementation of a project, an annual survey of user agencies will be developed and distributed.
- B. Program Standard measure – Standards comparable to other jurisdictions will be formulated and monitored for new projects as they are implemented.
- C. Cost Effectiveness Measure – Annual costs will be monitored and any significant variance in expenditures will be evaluated and addressed as necessary.